REMARKS

Applicants appreciate the Examiner's thorough examination of the subject application. Applicants request reconsideration of the subject application based on the instant amendments to the claims and the following remarks.

Claims 1-20 are pending. Claims 1, 5, 9-11 and 17-19 have been amended. Claims 1 and 5 are amended herein to recite the language "wherein the fine particle powder (A) is not melted in the temperature range of 200 to 300℃ and wherein the resin powder (B) has a volume average particle diameter in a range from 70 to 300 μm and capable of melting at 200 to 300℃" (claim 1) or "wherein the fine particle powder (E) is not melted in the temperature range of 200 to 300℃ and wherein the resin powder (B) has a volume average particle diameter in a range from 70 to 300 μm and capable of melting at 200 to 300 ℃" (claim 5). Support for the amendments can be found throughout the specification of the PCT application as filed (and the English translation thereof), for example, paragraphs [0060] and [0065] of the specification as filed. No new matter has been added.

Objection to claim 9

Claim 9 was objected to on the basis that the phrase "resin powder composition" differed from the language of certain other claims. With the present amendments, the phrase "resin powder composition" has been amended to "powdered resin composition", the same language that appears in claims 1-8. Similarly, claim 17 has been amended to refer to a "powdered resin composition", language that is consistent with claim 5 upon which claim 17 depends. Applicants submit that the objection is overcome.

Rejection under 35 U.S.C. §112, second paragraph

Claims 9-11 and 17-19 stand rejected under 35 U.S.C. §112, second paragraph, as lacking antecedent basis. In response, claims 9-11 have been amended to delete the phrase "the fine particle powder (E) of a vinyl type copolymer" (as suggested by the

Examiner). Similarly, claims 17-19 have been amended to delete the reference to "the fine particle powder (A) of a vinyl type copolymer" (as suggested by the Examiner).

Applicants submit that the claims as now pending comply fully with the requirements of 35 U.S.C. §112. Withdrawal of the rejection is proper and such action is respectfully requested.

Rejection under 35 U.S.C. §102(b)

Claims 5-7 and 15-18 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Sapper et al. (US 6,296,903 B1). This rejection is traversed.

According to the Office Action, the Sapper reference discloses a powder dispersion containing a polymer binder, crosslinkers and silica. As Applicants understand the reference, Sapper relates to an aqueous powder coating dispersion containing a binder and a crosslinker as a solid, pulverulent component (see Sapper, claims 1 and 2 and the Example). Sapper discloses that "[t]he preparation of the powder coating dispersion of the invention using the powdered coating material of the component (A) takes place by means of known methods, an example being wet grinding" (column 5, lines 15-18). Sapper further states that: "[t]he average particle size of the powder coating dispersion obtained was between 1 and 25 µm, preferably less than 20 µm" (column 5, lines 30-31); "[a]nother method of preparing the powder coating dispersions of the invention comprises processing the component A obtained by spray drying to a very fine powder, preferably having an average particle size of less than 15 µm, • • • by means of suitable apparatus, e.g. by classifying." (column 5, lines 33-39)" In addition, the Example of Sapper shows the powder coating dispersion was "filtered through a 50 µm nylon bag" (column 12, lines 25-26)". As shown in the Example of Sapper, the powder coating dispersion is applied to a substrate, and drying and baking it gives a film produced via the crosslinking reaction of the crosslinker.

In contrast, the powdered resin composition according to present claims 5-7 and 15-18 comprises a thermoplastic polyurethane resin powder (B) having a volume average particle diameter in a range from 70 to 300 µm and a fine particle powder (E) having a cross-linked structure. The powdered resin composition of the present claims yields a

slush molding article by heat-melting the thermoplastic resin powder wherein the fine particle powder (A) is not melted in the temperature range of 200-300℃. Thus, the powdered resin composition of claim 5 (and claims dependent therefrom) is **not** a thermosetting resin composition as disclosed in Sapper, but rather a composition having a thermoplastic resin powder as the main component and including a fine particle powder having a cross-linked structure. No resin composition according to the present claims is disclosed by Sapper et al.

Claims 1, 5, 7, 11 and 19 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kodera et al. (JP04-039045). As Applicants understand the reference, Kodera discloses powdered resin produced by the method of the Example 1 of Kodera by using (A-2) the thermoplastic polyurethane REZAMIN P-8765 and a graft copolymer (B-5). Kodera, however, does not disclose a mixture of (A-2) powder and (B-5) powder.

The Office Action stated that Kodura discloses that "[t]he graft copolymer (B-5) was coagulated and dried [0022] and blended with the polyurethane (A-1) in a Henshel mixer [0026]; this blending process reads on 'dry-blending'" (Office Action at page 4, lines 4-6). However, this blending process does not read on "dry-blending" of a powdered resin composition as presently claimed. For example, paragraph [0026] (Example 1) of Kodera (cited in the Office Action) provides:

> [0026] [Example 1 (Powder production)] 500 parts by weight of pelletized thermoplastic polyurethane DESMOPAN 385 (A-1) (products of Beyer Japan) and 500 parts by weight of the graft copolymer (B-1) were compounded and premixed by Henshel mixer and then melt-blended by an extruder to make a pellet thereof. Then, a freezing pulverizer was used to pulverize the resin composition to make a powder thereof. Next, classification process was carried out by using a sieve to give a powder with the particles having a particle diameter of 10-500 μm and then properties thereof were determined. In this respect, the properties shown in the following Examples and Comparative Examples were determined by the following methods.

Kodera, Column 7, lines 11-21; please see attached translation with verification thereof.

Thus, the particles of paragraph [0026] (Example 1) of Kodera were prepared by melt-blending pelletized thermoplastic polyurethane with the graft copolymer, and then pulverizing the resulting resin composition. Thus, each particle of the pulverized resin composition of Kodera is made of a mixture of thermoplastic polyurethane and graft copolymer, and no powdered resin composition having particles of thermoplastic polyurethane alone and particles of graft copolymer alone is disclosed. The dry-blend process disclosed in paragraph [0020] of Kodera refers to the process for pulverizing the resin to make a powdered resin. There is no disclosure in Kodera of dry-blending of the thermoplastic polyurethane and a graft copolymer.

On the other hand, the powdered resin composition of the present claims comprises a thermoplastic polyurethane resin powder as the main component and a fine particle powder of a vinyl type copolymer, and the powdered resin composition can be made by dry-blending the thermoplastic polyurethane resin powder with the fine particle powder of a vinyl type copolymer. The powdered resin composition of the present claims therefore includes two kind of particles: particles of the thermoplastic polyurethane resin as the main component, and particles of a vinyl type copolymer. The specification of the present application also describes (e.g., in paragraph [0075]) that a resin powder composition (S1) for slush molding can be produced by merely admixing the components, including the particles of thermoplastic polyurethane resin and the particles of a vinyl type copolymer. No powdered resin composition according to the pending claims is disclosed by Kodera et al.

Claims 1, 2, 5-7, 9-12, 15 and 17-20 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ohmori et al. (US 6,177,508) with further evidence provided by Minami (US 5,567,563). According to the Office Action, Ohmori discloses a composition that comprises a thermoplastic polyurethane elastomer (A), a plasticizer (B), a blocked isocyanate (C), a pigment (D) and a blocking inhibitor (E).

Regarding claims 1, 5 and 15, the Office Action takes the position that the hydroxyl functionalized styrenic and/or acrylic blocking inhibitor (E) of Ohmori will be at least partially crosslinked by the blocked polyisocyanate (C). Applicants respectfully disagree.

Applicants submit that a blocked polyisocyanate does not crosslink the blocking inhibitor (E) under the condition disclosed by Ohmori et al. A blocked polyisocyanate must be dissociated with the blocking group to act as a crosslinking agent. The temperature at which the blocking group is dissociated would have been known to one of ordinary skill in the art at the time the invention was made to be generally within the range of around 120-250 °C, depending upon the blocking group and isocyanate compound. For example, oximes such as methyl ethyl ketoxime is dissociated at 130-150 °C and ε-caprolactam is dissociated at higher temperature of 180-250 °C. In the Examples of Ohmori, ε-caprolactam blocked trimer of IPDI was used and the processing temperature was 50 °C in "Preparation Example 2" and 100 °C in "Example 1." Thus, the blocked polyisocyanate of Ohmori cannot be unblocked under said processing condition. Only at the molding step, which is carried out at 220 °C, would the blocked polyisocyanate be unblocked to act as a crosslinking agent. Therefore, Ohmori et al. would strongly suggest that the slush molding composition thereof should not have a cross-linked structure in itself. Actually, as Applicants understand the reference, the composition of Ohmori et al. uses the blocked polyisocyanate (C) for the purpose of making it not react in the composition by the time when it is heated in the mold, because the blocked polyisocyanate can act as a crosslinking agent after it is unblocked by heating. No powdered resin composition which according to the pending claims is disclosed by Ohmori et al. (alone or with further evidence provided Minami). Even if Minami discloses the styrenic and/or (meth)acrylic resins as mentioned by the Office Action, the blocking inhibitor (E) might not be even at least partially crosslinked by the blocked polyisocyanate such as ε-caprolactam blocked trimer of IPDI disclosed in the Examples of Ohmori under the conditions disclosed by Ohmori.

Regarding claims 11 and 19, the Office Action contends that "the mixing process [of Ohmori] reads on dry blending'." Applicants respectfully submit that the powdered resin composition recited in claims 11 and 19 patentably distinguish over Ohmori at least because, as explained above, the powdered resin composition according to claims 1 and 5 (from which claims 11 and 19, respectively, depend) is novel over the composition disclosed by Ohmori.

Withdrawal of the rejections is proper and such action is respectfully requested.

Rejection under 35 U.S.C. §103(a)

Claims 8 and 16 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Ohmori et al. (US 6,177,508) in view of Patnaik (Patnaik 2003). This rejection is traversed.

The Office Action alleges that "Ohmori et al. teach that it is within the skill of the art to produce a slush molding composition comprising a polyurethane, a styrenic and/or acrylic polymer and an inorganic pigment" (Office Action at page 6, paragraph 19). Applicants respectfully disagree.

As discussed in more detail above, Ohmori does not teach nor suggest a powdered resin composition comprising a polyurethane resin powder and a fine particle powder of a vinyl type copolymer having a cross-linked structure. Moreover, Ohmori tried to solve problems such as (1) formation of oil film of evaporated plasticizer on the automobile front windshield, (2) loss in matting effect and soft touch as a result of migration of the plasticizer to the surface of the molded article, and (3) yellowing from the degradation of PVC with passage of time by providing a slush molding composition with a wide molding temperature range, with a large elongation at low temperature as well as a slush molding suitable for, such as, automotive instrument panel (see, e.g., Ohmori at Column 1, lines 54). However, Ohmori does not even remotely suggest the problem of deterioration of the powder flowability and the solution therefor by a powder flowability improver which does not cause die stains. The presently-claimed powdered resin compositions (including the compositions of claims 8 and 16) differ from the compositions disclosed in Ohmori. Patnaik does not remedy the deficiencies of Ohmori as discussed above. Thus, even if Ohmori teaches a kind of slush molding composition as alleged by the Examiner (which Applicants dispute, as discussed above), and even if, *arguendo*, the teachings of Patnaik are as stated in the Office Action, Applicants submit that there would have been no motivation to combine the references as proposed in the Office Action.

For at least the foregoing reasons, Applicants submit that claims 8 and 16 are not unpatentable in view of the cited references. Reconsideration and withdrawal of the rejection is requested.

Claims 3, 4, 13 and 14 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Ohmori et al. (US 6,177,508) with further evidence provided by Minami (US 5,567,563) in view of Tanaka et al. (US 4,737,432). The Office Action alleges that

> It would have been obvious to one having ordinary skill in the art ..... to have used methyl methacrylate and ethylene glycol dimethacrylate in the slush molding composition of Ohmori et al. because Ohmori et al. teach that styrenic and/or acrylic toner binder resins described in Minami et al. are suitable for the blocking inhibitor and Tanaka et al. teach the ethylene glycol dimethacrylate is functionally equivalent to the (meth)acrylate monomers described in Minami et al. ...(Paragraph 23 in the Office Action)

As Applicants understand the reference, Minami discloses toner binder compositions comprising a binder resin (A) and an organic material (B) wherein (A) may have a Tg of 45-80 ℃ and the disclosed MFT of the toner is not more than 160 ℃ (see Table 3). The toner binder of Minami should be melted around MFT which must be low (see Minami at Column 1, line 47). Minami discloses that the Tg of (A1) is 40-85 ℃ and the softening point of (A1) is 70-180 ℃. The Tg of (A2) styrenic and/or (meth)acrylic resins is also 40-85 ℃. Given the disclosure in Minami, the binder resin (A) of Minami would strongly suggest that it should be melted well below the temperature of 200 ℃.

On the other hand, in the presently-claimed compositions, the vinyl type copolymers (A) and (E) are not melted in the temperature range of 200-300 ℃ (see, e.g., claim 1, from which claims 3, 4, 13 and 14 depend) Therefore, even if Minami and Tanaka disclose the subject matter indicated by the Examiner, the combination of the teachings of the two references does not lead to the compositions of the pending claims. Moreover, it would not have been obvious to one having ordinary skill in the art to prepare a powdered resin composition for slush molding comprising a thermoplastic polyurethane resin powder (B) as the main component and a fine particle powder (A) or (E) of a vinyl type copolymer of the present claims, and having a cross-linked structure wherein the fine particle powder (A)

and (E) are not melted in the temperature range of 200-300 °C. Further, both Minami and Tanaka relate to resin compositions suitable for toner which are applied at a temperature in a range such as 80-150 °C (see Minami Col.16, line 22; and Tanaka Col.22, lines 35-36: "the toner was applied to a commercially available copier"), while Ohmori relates to a composition for slush molding which is capable of being molded at a temperature such as 220 °C (see, e.g., "Testing 1" of Ohmori). Thus, a toner composition and a slush molding resin composition are substantially different from each other with respect to, for example, the temperature applied. Therefore, the teachings of Ohmori could not be combined with the teachings of Minami and Tanaka as proposed in the Office Action. Even if the teachings are combined, the combined teachings do not result in the claimed compositions, at least because the fine particle powder (A) of the presently-claimed compositions is **not melted** in the temperature range of 200-300 °C, and wherein the resin powder (B) has a volume average particle diameter in a range from 70 to 300 μm and is capable of melting at 200 to 300 °C.

For at least the foregoing reasons, Applicants submit that claims 3, 4, 13, and 14 are not unpatentable in view of the cited references. Reconsideration and withdrawal of the rejection is requested.

CONCLUSION

For at least the foregoing reasons, Applicants contend that the application is in condition for allowance. Early and favorable consideration of the application is earnestly solicited.

If the Examiner considers that obstacles to allowance still exist, the undersigned invites the Examiner to contact him at the telephone number given below.

Applicants conditionally request any extension of time required for the consideration of this response. The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper

hereafter filed in this application by this firm) to our Deposit Account No. 04-1105, under Order No. 66327 (49227).

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Respectfully submitted,

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